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#### Proceedings at Boston, May 19th, 1880.

The Society came together at the usual time and place. The President being detained away, the chair was taken at first by Dr. N. G. Clark, and later by Dr. A. P. Peabody, and in the afternoon by Dr. F. Gardiner.

After the reading of the minutes of the last meeting, reports

from the officers for the last year were called for.

The Treasurer's summary of the income and expenses of the year was as follows:

	RECE	IPTS.						
Balance on hand, May 21st, 187	9,	-	-	-	-	-	-	\$1,197.70
Annual assessments paid in,	•	-	-	-	-	\$85	5.00	- /
Sale of the Journal, -	-	-	-	-	-	44	1.76	
Interest on deposit in Savings	Bank,	-	-	-	-	45.92		
Total receipts of the year, -	-	-	-	-	-	-	-	175.68
								\$1,373.38
E	XPEND	ITURE	s.					
Printing of Journal (Vols. x., xi.) and Proceedings, - \$645.18								
Expenses of Library and Corr	espond	ence,	•	-	-	54	.14	
Total expenditures of the year, Balance on hand, May 19th, 18	-	-	-	-	-	•	-	699.32
	0,	-	-	-	•	-	•	674.06
Who amount of the Doubles to	c. 1 •		**					\$1,373.38

The amount of the Bradley type-fund is now \$815.58.

The Librarian reported that the most valuable donation of the year—and, after that of Charles William Bradley, the most valuable gift ever made to the collections of the Society—had been the books relating to the East forming part of the library of the late Dr. Joseph Parrish Thompson, and bequeathed to the Society by him at his death in September last at Berlin. By the kind and prompt care of his family, they had been received at New Haven before the end of the last year. The number of titles in the collection is 365; of volumes, bound and unbound, 284; of pamphlets, 122. The works relating to Egypt form, as from the direction of Dr. Thompson's studies would naturally have been expected, the most valuable part of the collection, and include many costly publications. The current exchanges of the Society and other gifts have brought a further increase of 81 volumes, 116 parts of volumes, and 22 pamphlets. The present number of titles of printed books in the Library is 3984; of manuscripts, 144.

The Committee of Publication reported that the concluding Part of Vol. X. of the Journal had at last, after many and regretted delays, been completed and distributed to the Society's members and correspondents, a couple of months ago. Of Vol.

XI., a part was also already printed. With the express sanction of the Directors, the Committee had recently accepted for publication in the Journal Prof. Whitney's Index Verborum to the published text of the Atharva-Veda; and, as this would make the bulk of a whole volume, it had been resolved to issue it as Vol. XII., leaving Vol. XI. to be filled up in the mean time with the usual miscellanies.

The Directors gave notice that they had re-appointed the Committee of Publication of the last few years. Also, that they had designated Prof. S. Wells Williams of New Haven to represent the Society at the approaching Centennial festival of the American Academy of Arts and Sciences, and to be the bearer of its congratulations and good wishes to the Academy. Further, that the autumn meeting of the Society would be held in New York in October next.

On recommendation of the Directors, were then elected to Corporate Membership the following persons:

Mr. Porter C. Bliss, of New York; Rev. George S. Burroughs, of Fairfield, Conn.; Dr. George Z. Gray, of Cambridge, Mass.; Mr. P. L. Armand de Potter, of Albany, N. Y.; Mr. George H. Schodde, of Martin's Ferry, Ohio.

The Corresponding Secretary presented the last half-year's correspondence, and read a few extracts from it. In connection with it was exhibited to the meeting a curious votive inscription from India, stamped on a small pad of soft clay and burnt, and then enclosed in an acorn-like structure of soft clay and the whole burned again. The inscription, in an alphabet akin with that ordinarily used for Sanskrit, had not yet been deciphered.

The presiding officer appointed Professors Gardiner, Toy, and Latimer a committee to nominate officers for the ensuing year, and the ticket proposed by them was elected without dissent.

Thus:

President, Vice-Presidents, Secretaries, Treasurer and Librarian,

the same as last year.

Directors, Mr. COTHEAL, Prof. SHORT, and Dr. WARD, of New York; Prof. Green, of Princeton; Prof. Lanman, of Baltimore; Prof. Peabody, of Cambridge; Prof. Thayer, of Andover.

The Corresponding Secretary read the names of members deceased since the last annual meeting (or earlier, but not hitherto reported): namely, Corporate Members,

Rev. Charles A. Brigham, of Ann Arbor, Mich.; Mr. James Lenox, of New York; Dr. Joseph P. Thompson, of Berlin;

Corresponding Members,

Dr. A. D. Mordtmann, of Constantinople; M. Nicolas de Khanikoff, of Paris;

Honorary Member,

Prof. C. J. Tornberg, of Lund.

The Secretary, in connection with these names, gave some account of the life, and the services to learning, of each of the persons mentioned: -of the distinguished Semitic scholar Professor Tornberg (deceased in 1872), the regular receipt of the successive volumes of whose great work, the Ibn el-Athiri Chronicon (recently completed), had long testified both to his great industry and to his interest in the Society;—of the well-known savant M. Khanikoff, who during his official residence at Tabrîz had been the efficient friend of American missionaries, who had sent from there his paper on the "Balance of Wisdom," which held a conspicuous place among the publications of the Society of twenty years ago (Journal, vol.VI.), and whose retirement near Paris had been fruitful of contributions especially to the geography of the East;—of the numismatist and epigraphist Dr. Mordtmann;—of Mr. Brigham, whose presence and whose lively communications had often added interest to the Society's meetings;—of Mr. Lenox, whose munificent foundation of a free library of consultation in New York had forever linked his name with the progress of American learning;—and especially of Dr. Thompson, whose friendship he had enjoyed, and whom he had often met during his recent residence abroad, admiring more than ever his rare qualities of mind and heart, his indefatigable activity, and the smiling energy and spirit of his struggle against a complication of bodily disorders which would have reduced almost anyone else to the condition of a helpless valetudinarian.

Dr. Peabody added his own deeply-felt tribute to the memory of Dr. Thompson, dwelling especially upon his activity as a publicist, the part played by him in the association for promotion of international jurisprudence, and his ready and effective usefulness as counsellor and aid of his countrymen who visited Europe.

Dr. Peabody also spoke of the merits of Mr. Brigham, the unusually wide range of his literary interests, and his usefulness as reporter and critic of others' investigations. And Professor Toy and Messrs. Luquiens and Bliss added appreciative remarks as to other of the persons mentioned, particularly Tornberg and Mordtmann.

The following resolution, expressive of the Society's sense of its loss in Dr. Thompson and his generosity toward it, was prepared and presented by Dr. Peabody, at the suggestion of the meeting, and was unanimously adopted:

Voted, that our Secretary express to the family of the late Rev. Dr. Thompson our gratitude for their courtesy and kindness in regard to his testamentary disposition in our behalf, our high appreciation of his bequest—one of the most valuable donations ever received by us from any quarter—and our profound sense of his eminent worth, and of his distinguished services as a scholar, as a Christian minister, and as an honored representative of his country, and friend and helper of his fellow-citizens, during his long residence in Europe.

Of communications, which were now in order, were presented those whereof abstracts are given below.

1. On Palestinian Archæology, by Rev. Selah Merrill, of Andover, Mass.

After calling attention to the systematic exploration of Palestine and Syria that has been carried on in recent years, Dr. Merrill proceeded to a description of a few of the interesting archæological remains of those countries; the following is a brief synopsis of his paper, which could not well be given more fully without illustrations.

A large number of drawings were exhibited to the Society, representing the different objects remarked upon; among them were pictures of glass articles from Phenician tombs at Sidon. Two of the largest and finest of these articles are, so far as is known, unique Objects of pottery, bronze, and gold, are likewise found in connection with the tombs, or among the debris far below the surface of some ruined city. This is true on the east as well as on the west of the Jordan. Pictures were shown of a bronze bull and of a bronze idol belonging to Phenician times, and reference was made to the valuable collection of M. Peretie of Beirut, who during his long residence in that city has been unusually successful in obtaining important monuments of a very remote period. Copies of an Assyrian sculpture were also shown which Dr. Merrill had found in the hills east of Tyre: confirming what he had before shown from the cuneiform inscriptions to be probable, that in the time of the Assyrian invasions their armies followed from Banias to the seacoast two main routes, one leading to Sidon, and the other, farther south, to Tyre.

The dolmens of the country were also remarked upon, and pictures presented of some of the more curious ones. The number and variety of these interesting monuments is very great in eastern Palestine, and many facts have been gathered

which may help in clearing up the question as to their origin.

Quite an important relic in Dr. Merrill's possession is a stone ball such as was used in the ancient balistæ. He found it in an underground passage of the castle at Banias. In Josephus and other ancient writers we read of a castle being taken, and the garrison thereupon retiring to the citadel, where they held out for a long time, or perhaps resisted successfully all further assaults of the enemy. The Banias castle is a good illustration of the relation of these two parts of one and the same fortress. The citadel is at the eastern end, and is about 150 feet higher than the castle proper. It has a strong wall and a deep trench of its own, and would be a formidable place to attack even after the great castle below and about it had been captured. It was under this citadel, among debris and ruins, that the ball in question was found. When thrown it was injured slightly, so that at present it is not perfectly round. Its diameter is seven inches and its weight thirteen pounds. Elsewhere he found two, quite perfect, with a diameter of fourteen inches, and weight of over a hundred pounds.

Josephus, speaking of the size of these stones, says they were of the weight of a talent. This may have been 93 or more pounds; and the weight of the largest found is sufficiently near 100 pounds to furnish an important corroboration of Josephus's words. In the siege of Jotapata in Galilee a large number of these engines, called by Josephus  $\pi \epsilon \tau \rho \circ \beta \circ \lambda \circ \varsigma$  and  $\lambda \iota \theta \circ \beta \circ \lambda \circ \varsigma$ , were employed, and their destructive power was very great: "the stones, driven whizzing from the machine, carried away the battlements, and broke off the corners of the towers. And there was no body of troops so firm as not to be overthrown to the last rank by the violence and magnitude of the stones." Some instances of their effectiveness are given, and among them that of a man "who stood near Josephus upon the ramparts, being struck . . . . his head was torn off, and his skull flung to the distance of three Again, in the siege of Jerusalem, speaking of the tenth legion, he says: "The stones that were thrown were of the weight of a talent, and had a range of two furlongs and more. The shock, not only to such as first met it, but even to those beyond them, for a considerable distance, was irresistible." The stone being white, and easily seen, the Jews "had watchmen posted on the towers, who gave warning when the engine was discharged and the stone projected, calling out in their native language: 'The son is coming;' on which those towards whom it was directed would separate and lie down before it reached them." The Romans afterwards blackened it, so that it could not be so readily discerned, and consequently "many were swept down by it at a single discharge (War, iii. 7, 9, 23: and v. 6, 3). The words referred to would probably be ברא אחא, and the first א סוא would no doubt be elided, leaving a word of two syllables which could be spoken quickly.

One of the altars which Dr. Merrill has is adorned with a grape leaf and a

cluster of grapes, and has upon it a bullock's head finely carved in relief. In the

top of the head is a well preserved fire-box. Another altar is 9½ inches wide and 15 inches tall. It is square, with basin in the top, and near the upper edge are sunken places where the overlying material was fastened. On one side is a serpent, and on the opposite is another with a flat breast. Both have crowns upon their heads, and the one first referred to has a beard, which Prof. T. O. Paine states to have been among the Egyptians a symbol of divinity. Of the two remaining sides, one has a bullock, above which is a wreath festooned, and the other has carved upon it an eagle with wings spread, and in its beak a large ring-shaped wreath. This eagle has a crown upon its head like that upon the heads of the serpents. The material is alabaster; the carving is beautifully done, and the figures are well preserved. This altar was dug up at Jebail, the ancient Byblos.

Attention was also called to the ancient millstones which are scattered over the country in both Eastern and Western Palestine. They are found in quarries, by the side of ancient roads (where they were left apparently by some accident), along the large water courses, and are very common among the ruins of Moab, Gilead, and Bashan. The size of these stones varies a great deal, some being quite small and others very large. Such stones have doubtless always been in use; hence it is difficult if not impossible to assign those now found to any particular age. Rev. J. A. Paine holds that these mill-stones were "mysterious disks" "connected with the worship of Baal." "Even without excavation in this land it may turn out that the gods of the Moabites were simply orbs of stone" ("Identification of Mount Pisgah," pp. 21, 68). Dr. Merrill has found a stone larger than his largest: namely, 11 ft. 4 in. in diameter and 3 ft. 8 in. in thickness; but it was certainly designed for a millstone. These "mysterious disks" are still quarried at several points in the Lejah, and the price varies, according to the size, from ten to twenty-five dollars. They are transported to the different towns of the country where they are in demand, not for purposes of superstition, but for the more practical ones of crushing olives and making flour.

In connection with the tombs at Sidon were found four small objects of stone, with characters inscribed upon them. The stones are of flint, and of different sizes, while of the characters, eight in all, no two are alike. Their weight is respectively: 1 oz. 8 dr., 1 oz. 9 dr., 1 oz. 11 dr., and 2 oz. 11 dr., avoirdupois. Dr. Birch, who examined them and had casts taken of them for the British Museum, declared them to be very interesting relics, and there are good reasons for considering them as ancient weights.

## 2. On the True Site of Nineveh, by Mr. Porter C. Bliss, of New York.

Mr. Bliss explained that he had prepared a brief statement of his views on this interesting question at the suggestion of another member of the Society, who was to have presented it to the meeting; but, the gentleman referred to having been at the last moment prevented from being present, he had been led to come himself to read it. His opinion was briefly this: that we are to accept the authority of Ctesias and Diodorus Siculus as superior to that of Herodotus, and to place the ancient Nineveh, the original capital of Assyria, upon the upper Euphrates with the two first, rather than upon the Tigris with the last. The main argument in modern times in favor of Herodotus is that the ruins of Nineveh are supposed to have been discovered upon the upper Tigris. But they have been found there at three different times, in as many places—by Botta at Khorsabad, by Layard at Nimrud, and by the latter's successors at Koyunjik: the last identification being regarded as completed by the quite recent discovery there by Mr. George Smith of the palace and library of Assur-bani-pal, whom he unhesitatingly identifies with "the Sardanapalus of the Greeks:" but these two characters cannot be made to harmonize in any appreciable degree. Rawlinson's present view, that Nineveh comprehended the whole group of cities, with Koyunjik in the centre, may be adopted with limitations—in the sense, namely, that the capitals of several Assyrian monarchs of the period of two or three centuries prior to the final overthrow of the empire were at the localities mentioned, and that any or all of them may have been designated as Nineveh, as that name had become synonymous with the empire and its capital at any given time. But the primitive city,

the Nineveh of Nimrud and Ninus and Semiramis and Sardanapalus, and of all Greek legend and history, was on the Euphrates. The inscriptions on the Tigris are silent as to all these characters. The name was transferred from the old empire, which came to an end with Sardanapalus, to that which arose later in the other region, much as the name of Rome was transferred to Constantinople, and still remains in Roumania and Roumelia.

The opportunities of Ctesias for gaining trustworthy information were much superior to those of any other ancient Greek, and his treatment of Assyrian history was fuller than any other. Diodorus deliberately adopted him as authority upon all vital points. The site of the Euphratean Nineveh also was not lost to historians for many centuries. It was the Hierapolis of the Syrian empire of the Seleucidæ. It was named Nineve Claudiopolis by an officer of the emperor Claudius. Philostratus, the biographer of Apollonius of Tyana, writing near by at Antioch, and founding his account on the memoirs of Darius, a native of Nineveh, states that Apollonius, starting from Antioch, tarried at Nineveh, and there crossed the Euphrates. The Egyptian records also seem irreconcilable with the Tigris location of the city, as is virtually admitted by Rawlinson. The traditions of Nimrod and Semiramis and Sardanapalus linger on the upper Euphrates, as they do not elsewhere.

Mr. Bliss believed the biblical Shinar also to lie upon the upper Euphrates and Chaboras, and the Casdim or Ur-Casdim of Genesis to have no necessary connection with the Chaldea of the times of the captivity; he held that the whole theatre of the earliest biblical geography, from the Noachian flood downward to the time of Abraham, is placed in the region of the upper Euphrates, from Lebanon and the Mediterranean to the Taurus range of mountains.

# 3. Index Verborum to the published text of the Atharva-Veda, by Prof. W. D. Whitney, of New Haven.

Prof. Whitney said it had already been notified to the meeting that this Index would before long appear, as the twelfth volume of the Society's Journal. Its collection had been begun by him in 1850, and finished in 1875, having been in considerable part so carried on that its material should be furnished in timely instalments to the editors of the Petersburg Lexicon. He spoke of the value of such complete special indexes of important texts to the students of a language, and of their especial importance in the case of a language like the Sanskrit, whose whole classical literature had an artificial aspect, being produced under government of the inviolable rules of a native system of grammar, while the older texts, of Veda and Brahmana, showed much more nearly the character of a vernacular literature. Of these texts, one, and by far the most important of all, the Rig-Veda, had already its Index, furnished by Grassmann, with a care and skill, and an unstinted expenditure of labor in order to promote in every way the convenience of those using it, which are worthy of the very highest commendation: its plan has been pronounced by Delbrück decidedly superior to that of any existing classical Index, even of those to Homer. Next to the Rig-Veda in importance is the Atharva Veda, as standing second only to it in amount of true Vedic or mantra material. The material of this character, additional to that of Rik and Atharvan, which is scattered through the other Vedic texts and through the Brâhmanas and Sûtras, will have in its turn to be collected and sifted and indexed.

As a not inconsiderable part (about one seventh) of the Atharvan material is found also in the Rig-Veda, with greater or less differences of version, the Index will take due account of this by marking with a special sign, every reference which is virtually the repetition of a Rik reference, and with another sign every one at which the Rik offers a various reading. The reading of the pada-text for every word and form will also be given, to render unnecessary any publication of that form of text. Moreover, in accordance with Grassmann, will be shown the metrical form of each word, as exhibiting resolution of long vowels, conversion of a semivowel into a vowel, and the like. In the few cases of a difference of reading among the manuscripts, and in the more numerous ones of a deviation of the edited text from the manuscript reading, the facts will be briefly but sufficiently noticed. Under each root will be mentioned all its primary derivatives, and under each stem all its secondary derivatives and compounds. A reversed Index of roots and stems, arranged in order of the final, will be given at the end.

## 4. Remarks on the Method and Processes of Comparative Mythology, by Mr. J. Luquiens, of Boston.

Dr. Luquiens presented a few remarks on certain studies in Comparative Mythology recently published in different English monthlies, and criticised the laxity of method evinced by most or all of them. The bulk of his remarks, however, bore upon the undue value set on linguistic evidence in researches of this nature. Phonetical affinity was the unerring criterion of comparative mythology in the modest beginnings of that science. but since the latter from a mere annex to comparative philology has become an independent field bordering on the domains of theology and morals, its method ought to be enlarged as its scope has been. Now parity of form indicates at best common origin, but origin in its most external sense, a mere formal pedigree, and remains short of the inner meaning. Words are, after all, mere hulls, and it is by no means unfrequent for a noun to be emptied of its original meaning and filled anew. Adonai, as Mr. Gladstone justly remarks (XIXth Century, October, 1879), means Jehovah in our Scriptures, and yet is the Adonis of Syria, loved by Aphrodite. Moreover, the force of phonetic evidence is chiefly retroactive; the fact that Homeric Zeus once meant 'the sky' may prove that further back in history the sky was worshipped; but from the fact that Indo-European Dyu was a naturalistic God it does not follow that the later Zeus was ever adored in any such materialistic sense by the Greeks.

The necessity of repeating these and other remarks is well illustrated by the essay written by Mr. J. Darmesteter for the Contemporary Review (October, 1879). This essay, a corollary to the more ambitious work of the same writer on "Ormazd and Ahriman," sets forth the plausible view that there was in the Indo-European period of unity one supreme God, namely "the Heavens;" but, not satisfied with a mere plausibility, the author assumes first that the Roman, Greek, Vedic, and Old Persian religions were alike, and actual naturalistic systems. This premise, controvertible in regard to the Latin and Greek mythologies, and utterly unfounded, it is believed, so far as Mazdeism is concerned, finds in truth no other support than a reckless interpretation of names and texts, as if they had still the meaning bespoken for them by etymology in a far distant and scarcelyknown period of unity. This tendency to ascribe to words a mysterious inner cohesion, and to reduce the mental development of our race to mere linguistic phenomena, is again instanced in another chapter of the same essay. The writer announces gravely that he is about to explain how the naturalistic God of the Aryans became from a blind force of nature a moral God; this solution, however, is a wordy paraphrase of M. Müller's famous paradox, that mythology is a disease of language. Morality, in the Indo-European stage, rests upon a linguistic misunderstanding: in the Rig-Veda to say "everything is in Varuna," that is, in the Heavens, and to say "everything is through Varuna," that is, through the Heaven God, are one and the same thing; "so theism is ever found side by side with unconscious pantheism, of which it is only an expression," and so on; and consequently "Aryan morality came down from heaven in a ray of light"! This conclusion may seem more brilliant than intelligible; but even the theory, much clearer, of our race's blundering into a moral conception is not without difficulties; for since all the Indo-European families acknowledged, in historical times, a personal God, we have to admit for all of them an identical and very surprising looseness of speech. Mr. Darmesteter appears to have a vague consciousness of this improbability; for he explains, on the same page, that "if ever since the Indo-European period of Aryan unity the theistic conception was more clearly defined than the others, it is because it has deeper roots in the human heart and human nature, which in every phenomenon sees a Living cause, a Personality." But this admission must lead to another: namely, that man, who took out of his deeprooted fund of ideas the notion of personality, may well have borrowed from the same stock the rest of the outfit of his God; and, indeed, every step of the Godmaking process described by Mr. Darmesteter shows that man simply clothed his deity in attributes drawn from his inner consciousness and social experiences, and that the mysterious forces which our writer lodges on high were nothing but the moral instincts inherent in man's nature, and far older than the naturalistic Gods.

On coming together in the afternoon, Prof. Gardiner in the chair, the Society continued to listen to communications.

5. On Catalectic Vedic verses of seven Syllables, by Prof. C. R. Lanman, of Baltimore, Md.

The great majority of Vedic verses may be classed as tetrapodies or hexapodies with general lambic movement. The iambic hexapody is the so-called jagati-påda of twelve syllables, and with a pretty strictly diiambic cadence: e. g. så jå'yamānah paramė viomani (i.143.2 i et al.). The trishtuhi-påda is evidently a catalectic form of the same verse: e. g. så jå'yamānah paramė vioman. Here the catalexis gives to the cadence a trochaic effect; but the essential similarity of the two hexapodies will probably be questioned by no one. The question is, now, whether catalectic tetrapodies, or verses of seven syllables, are admissible for the Veda, as well as catalectic hexapodies, or verses of eleven syllables.

The Hindu metrical authorities, as the Rig-Veda Prâtiçâkhya, though they admit in certain cases of 7-syllabled pâdas, do not help us much. For they show, along with their acuteness in some cases, a great lack of it in others. Thus, of the verse prêshtham u priya name stuhi asava âtithim agnim râthânam yamam (viii.92.10), the pâdas are reckoned (RPr. xvi.15) as of 6, 8, and 7 syllables respectively; while the cadence requires that the third pâda be made of 8 by the resolution of nâm to naam, and that prêshtham in the first be read prâyishtham, as almost invariably elsewhere in the Rig-Veda (and correspondingly in the Gâthâs). Is then the resolution of -âm to -aam, necessary in the third pâda, required also at the end of the first, extending the seven syllables to eight? The instance is a typical one, and it is seen that the Hindus leave us entirely in the lurch.

There are numerous cases in which pddas written as of 7 or 11 syllables have their ultimate capable of a resolution whose admissibility is proved by its necessity in other cases. They cannot be used for either side of the question in hand. The gen. pl. in dndm, dnd

Since all these cases, in which the penultimate is long and the ultimate is susceptible of resolution, are indecisive, the question must be discussed on the basis

of padas of other character. Thus:

1. With long or heavy (positionally long) penultimate, but the resolution of ultimate of doubtful admissibility: examples are d'ántôd d' parôkô't (i.30.21), trơ yantôm ihá devô's (x.137.5), ágne kébhiç cið évôis (viii.92.13), sastô'm ábudhyamône (i.29.3), niryuvônô áçastîs (iv.48.2), práti yád îm havíshmôn (i.127.10)—such are numerous.

2. With heavy penultimate which would however be made light (prosodially short) by the resolution: examples are  $svay\acute{a}m$   $s\acute{a}'$   $rishay\acute{a}dhy\acute{a}i$  (i.129.8),  $s\acute{a}cemahi$ 

sacathydis (v.50.2), çatám gá' átharvabhyas (vi.47.24).

3. With an ultimate incapable of resolution: examples are yajñásya dhûrshú sádman (x.105.9), samûné ádhi bhû'rman (viii.2.8).

4. With penultimate of doubtful resolution or yielding a faulty cadence if resolved: examples are yó asmábhyam árává (ix.21.5), víçvo devásya netúr (v.50.1),

tigmá' didyún maghónos (v.86.3).

The combination in the same verse of trishtubh (11-syllabled) with jagati (12-syllabled) pādas, though sometimes clearly avoided (as by the substitution of vionani for the more usual vionan in the pāda first quoted above), is nevertheless not very unusual. And it does not appear why the relation of a jagati to a trishtubh is not entirely analogous with that of a gāyatri (8-syllabled) pāda to its catalectic form. If these things be allowed, and if further, as has been shown above,

there is a necessity for admitting the existence of 7-syllabled  $p\hat{a}das$  in some cases, there seems to be no reason why this admission should not be considerably extended, to those classes of  $p\hat{a}das$  in which resolution of a final after a long penul timate is merely possible but not imperative.

### 6. On Noun-Inflection in the Sabean, by Prof. C. H. Toy, of New York.

Nearly fifty years have elapsed since the first attempt to construct the language of southwest Arabia, sometimes called Himyaric, or Himyaritic, but better Sabean. In that time much has been done to fix its form, but, notwithstanding the recent great increase of material (the number of inscriptions now known being over 800), many points of grammar are still obscure. This is not from any lack of zeal or acumen in the investigation, but partly because of the sameness of matter in the inscriptions (most of which are votive or mortuary), the same words and phrases continually recurring, and partly because of the absence of indication of vowels in the writing. It happens that some curious and interesting questions arise in connection with the inflection of the noun, as to which the Semitic dialects are so generally substantially at one. On certain points recent writers are agreed: namely, that the noun has the postfixes m, hu, han, and n (the vowels here used are conjectural), that the dual ends in ni, the fem. plural in t, and the construct mase plural in yod, and sometimes in waw. But on further points of detail there is much difference of opinion, and not a great deal has been done towards bringing the phenomena into connection with those of the sister dialects.

The postfix m is held with tolerable certainty to be the mimation, as in Assyrian (and in survivals of aucient forms in Hebrew), answering to the nunation in Arabic. We do not know with what vowel or vowels it was pronounced-that is, whether Sabean retained the old Semitic distinction of cases, or had dropped one or two of them, and, if so, which it had retained. Osiander refers, indeed, to the expression אולדום דכרן, 'male children,' in Brit. Mus. Inscrip., 18. 6; as the noun is here in the accusative, this termination, if we are to read it um, would go to show that Sabean had retained only the old nominative-ending; but this is contrary to what has occurred in other dialects, and is contradicted by the you that elsewhere appears in Sabean; and, in any case, one such instance is insufficient to establish a rule. Whether the *yod* and *waw* were ever used in Sabean as mere vowel-letters, as in Arabic and Hebrew, is uncertain. An equally difficult question is, whether this m was employed as postfix in the plural, as the min Hebrew and the n in Arabic. It might seem an easy matter to determine this; but in fact, with our present material, it is not easy. Take, for example, the arguments of Col. Prideaux, who regards the m as the termination of the external plural (Trans. Soc. Bib. Arch., v. 419). 1. He thinks, after the analogy of the Arabic and Hebrew, that the plural ought to have the same ending as the singular. But Assyrian has m in singular, and n in plural; and the dual, which in Hebrew and Arabic agrees in this respect with the singular and plural, has n in Sabean. It does not help to say, as Prideaux does, that this dual is a remnant of the second cardinal tani; for this numeral has n for its second radical in all the dialects; and, assuming the origin of the dual to be the same in all, we could not thus account for the occurrence of n in some, and m in others. 2. The expression he renders, with Gesenius, 'King of the Himyarites,' and not (regarding the final m as mimation) 'King of Himyar,' on the ground that there was no region called Himyar, but only a people called Himyarites. But as to this we cannot be said to have trustworthy information. 3. He appeals to certain Arabic rules of nunation, as that "nouns ending in n are diptote," that is, unnunated, and "proper names formed by a combination of two words are diptote," and regards the final m in such cases as plural sign. It is, however, precarious to transfer the rules of one language to another in this way, and we know that the Sabean mimation does not act always as the Arabic nunation. The rules, moreover, are stated too absolutely: Arabic allows nunation in some common and some proper names in n, and in some compound proper names. And these latter actually occur with mimation in Sabean, as עברשמסם, 'servant of Shamas' (Brit. Mus. Insc., 13. 1); we cannot, therefore, assume the plural ending in הדרמתם, 'Hadramaut.' It has been long since declared that Sabean proper names resemble the Hebrew and Phenician much more than they do the Arabic. 4. He cites some general Semitic grammatical rules. Thus, in Halévy Inscr., 87. 1: פקרם בן, 'officers of Bin,' he thinks the m plural sign, because the mimation would fall away in the sing. construct; but it would, by the ordinary rule, equally fall away in the plural. The example from Hal., 215. 3: חמס קבם, 'five kabs,' is more pertinent. Certainly we should here expect the plural, and be inclined so to take it, though the gender makes a difficulty, but for the general difficulty to be presently mentioned. 5. The occurrence of such words as אשנא, 'enemy,' Os., 18. 10, and אנס, 'man,' Prid., 18, as collectives is too common to make it necessary to regard an m attached as plural sign. These examples are not conclusive, and against the supposition that the m is plural sign is the constant absence of the yod or waw before it. True, Phenician constantly writes the plural defectively, but it does so in the construct as well as in the absolute, while Sabean construct regularly shows the yod. The Assyrian presents a different case: it has a masc. plural in i (yod), and another in an, but this latter is rare, and it would hardly be safe to adduce it in support of a Sabean am. But neither is there proof that n was the plural sign; the n has a different meaning, as will be shown below. The only sign of the plural as yet discoverable is yod, and, in one word, 123, 'sons,' waw; this waw is a petrified survival of the old nominative, which has probably in the general usage yielded to the genitive.

The termination n, which occurs with verbs as well as with nouns, is an expression of emphasis. There is nothing in the context where it is found to fix it as a plural sign—it is, indeed, sometimes added to an internal plural; and as, in all Semitic dialects, it shows in the verb a strengthened sense, it is more natural to suppose such a sense in its use in the Sabean noun. It is often followed by han, which also occurs separately with the noun, in the definite demonstrative sense 'this.' The ending n is found in the construct state. The postfix hu, or in the Hadramaut dialect h and su, seems not to differ greatly in sense from those just mentioned. It might naturally be taken for the possessive suffix of the 3d sing. masc., but its use precludes this explanation; we can hardly translate n the only such construction we know is the Aramaic anticipatory suffix, and we should here render 'the city of Nashk'—which, however, is not the meaning intended in the inscription. The h or s has a demonstrative sense, like the Hebrew ha, but it is not clear that it has the

power of the definite article.

These facts may point to an original coëxistence of the demonstrative postfixes m and n in Semitic, which were attached to the primitive noun-verb. On the separation of the noun and verb, the n, we may suppose, was assigned to the verb in the primitive language, and has been retained in all the dialects except Ethiopic. Both m and n are employed with the noun, but the different dialects chose between them according to principles unknown to us; why Assyrian, for example, should have m in the singular, and n in the plural, has not yet been explained. This postfix, from having been at first merely a sign of general emphasis (Osiander), came after a while to be a definite indication of determination (in those dialects that did not develop an article), or of indetermination (in those that did). This rule, however, is not to be pressed too far; Sabean has no well-defined article, and yet its mimution is indeterminate. What is peculiar in Søbean is the use it makes of the postfix n in nouns, as above described; in no other Semitic dialect does this act as a demonstrative postfix. We may perhaps bring it into connection with the h, hu, han. The base of these is probably ha, and the last is a compound of ha and an. This ha is the original form of the accusative ending, and survives in Ethiopic as ha, while a is the ending in the construct. In Aramaic it has petrified into â (o) as a sign of determination, nearly equivalent to an article. It is to be observed that Sabean n, Ethiopic a, and Aramaic d all occur in the construct state; it is frequently said that in Aramaic this is the result of decadence of force, but it seems more likely that it is an instance of the original flexibility of the form, which, as simply demonstrative, might stand before a determining noun, or not. How the postfix transliterated hu stands related to ha, it is hard to say; there are indications

(particularly in Hebrew and Aramaic) that hu, hi, and ha originally stood side by side with the same force, and were gradually differentiated. In the other dialects they were employed as possessive suffixes, in Sabean the hu became an emphatic postfix, acting somewhat as an article. The Hadramaut form su is to be explained in the same way (as in Assyrian). Thus the Sabean advanced by its postfixes n, hu, han towards the article, as the Aramaic did by its a (out of ha). It seems even to have a greater variety of arthrous expression than Hebrew and Arabic, but not so great distinctness; however, the precise difference of use between n and hu is not clearly made out. In all these nominal inflections we must probably see, not the corruptions of an unliterary dialect, but the maintenance of the original flexibility of forms, which never were differentiated into the precision of the more cultivated languages.

#### 7. On a certain Phonetic Change in Zend, by Mr. Luquiens.

In his recent studies on Iranian phonetics Hübschmann lays down the rule respecting  $\hat{o}$  as follows: " $\hat{o}$  arose mainly from original  $\hat{a}$  or a, under the influence of a preceding labial or of following u." The indefiniteness of this rule leaves room for exceptional formations; still I miss, both in the rule and in the author's comments, the mention of an important factor: there may be in  $\hat{o}$  a compensative element, as when it stands for original as: or, especially, when it results from the vocalization of v or b between a and y, as in  $rasm\delta y\delta$ ,  $h\delta y\hat{a}m$ ,  $k\delta y\bar{a}m$ , etc. It is to that factor, I think, that some of the anomalies may be ascribed; the cases of compensation, however, need not and cannot arise from the same causes; there is clearly a distinction to be made between forms like  $m\hat{a}v\delta ya$ ,  $khshm\hat{a}v\delta ya$ ,  $hv\hat{a}v\delta ya$ , and those like  $ak\delta ya$  etc.

- 1. māvôya, khshmāvôya are supposed by many, and by Hübschmann himself, to stand for the dative case of the personal pronouns azem and yuzhem, namely for maibya and khshmaibya; but this opinion accounts neither for the presence of the ô, nor for that of the â in the first syllable. Now there are in the Gâthâs possessive forms like khshmāvāti, twāvaāt, mavaāt (this latter, to be sure, ought to read māvaāt), used personally, as in daēnām yā khshmāvatô, 'the law which is of you;' with one exception, those forms belong to the Gâthâs. On the other hand, the dative forms maibya and khshmaibya, with one exception (Vd. 20. 22), are unknown to the mediæval Zend—which leads to the plausible surmise that the possessive forms khshmāvaāt and māvaāt have taken their place in the dative, and also their ending, namely bya; hence the forms khshmāvôya standing for khshmāvabya (it is common for suffix āāt to wear out into an), and māvôya for māvabya; the vocalization of the b is well supported even among pronouns: as yāshmaoyô for yūshmaibyô, dat. of yūzhem; and hvāvôya stands in a like relation to the possessive hvāvaāt, from hva.
- 2. In forms like akôya, isôya, etc., ô suggests to me the vocalization of an organic s (h in Zend) before y—that is,  $ak\delta ya$  is perhaps simply the genitive case of aka, and stands for akahya=akasya;  $is\delta ya$  for isahya; and so with  $hvadr\delta ya$ , hâdrôya. jôya (Y. 32.7) is more difficult; a genitive case it is not; I see in it a participal form jahya, from root jah=gas, 'come, end.' Of the possibility of the process there is little doubt; not only will such Vedic forms as anhoyu, askrdhoyu, duvoyu, but also the more cogent fact of the Homeric genitive, speak in its behalf. The regular change of anh=as to  $\delta$  or  $\delta nh$  before suffixes beginning with a sonant may offer a support to my surmise, which is strengthened moreover by a reading of the Vendidad-Sade, Brockhaus's edition, in Y. 43.8, namely khshathrôyâ for khshathrahyâ (it occurs in the same stanza as isôya, yet the plea of "attraction" is not admissible, from an unknown and anomalous to a clear and usual form: the contrary might rather be expected). Finally, the sense of the passages concerned may be taken as conclusive evidence: Y. 51.8: iyat akôya drugvâitê ustâ yê ashem dâdrê: 'That he may be of harm to the wicked, and weal to him who has maintained the holy order.' The same idea in a more forcible form is found in Y. 43.8: dvaeshûo hyat içôyû drugvâitê at ashûunê hyêm rafnô aojônhvat: 'That I may be a plague of might to the wicked, a powerful help to the righteous.' Here, indeed, the parallelism between içôyâ and aojôñhvat amounts to positive evidence. In Y. 43.2, atcå ahmâi vîçpanâm vahistem qâthrôyâ na qâthrem daidîtâ: 'To him would belong everyway the best of the fire who should receive (give?)

the fire with thy understanding,' etc. This is a coarse and approximate rendering; but the thought, harsh as it is, finds a parallel in the next verse: 'he would come to something better than the good, who should teach us,' etc.

The passage in Y. 32.7, which contains  $\hbar ddr \delta y \hat{a}$  and  $j \delta y d$ , is even more difficult than the last, both syntactically and etymologically; yet the admission of a genitive value for  $\hbar ddr \delta y \hat{a}$  would certainly simplify the problem. I venture a rendering, premature perhaps, in which I give  $\delta j \delta i \hbar ddr \delta y \hat{a}$  a sense similar to the Vedic phrase  $\delta j i s \hbar u \delta dt i y e$ : In the fray for the gain, he does not know the outcome of the violences he teaches,' etc.

- 8. Mr. John Westall, of Fall River, Mass., called the attention of the Society to certain representations of the resurrection on Egyptian monuments, and remarked briefly upon them.
- 9. On the Rules of External Combination in Sanskrit, by Prof. Whitney.

The substance of Prof. Whitney's paper was as follows:

A peculiar and striking phonetic feature of the classical Sanskrit is, as is well known, the strictness of the rules governing the combination of words in the sentence. These are in general the same which regulate the combination of members of a compound word: mainly the avoidance of hiatus, and the assimilation of surd and sonant finals and initials. By some they are regarded as a great advantage and merit of the language; by others, as certainly not in their full extent a possible characteristic of vernacular speech, but as more or less artificial, or even a figment of the native grammarians.

So far as the combination of final vowels (not diphthongs) with initial vowels and diphthongs is concerned, much light is cast upon the rules from the Vedic texts. These, though written according to the later rules, are required by the metre to be read very differently, with extremely frequent resolution of the combined elements, and restoration of hiatus. Here, however, there is a noteworthy difference between the class of cases in which an i- or u-vowel is by rule to be changed into y or v before a dissimilar vowel, and the class in which two vowel elements are to be fused into a long vowel or diphthong. In the former class, the i- or u-vowel prevailingly maintains its vowel-value unaltered. This is so to a considerable extent even in the processes of internal change, especially in declension; in composition, the cases of retention are to those of conversion to semivowel, in the Rig-Veda, about as 11 to 1 (see Dr. Edgren, in these Proceedings for Oct., 1878), and in septence-combination (ibid ) the proportion against y and v is still greater; in the Atharva-Veda the condition of things is nearly the same. In the other class of cases (chiefly the combination of a or  $\hat{a}$  with a following vowel or diphthong), the proportion is decidedly the other way, although in every department are found examples of disregard of the later rules. In internal combination, the exceptions are only sporadic: in composition, such cases as ghrtáänna, deváïddha, áchaükti, as compared with ajáví, devéshita, tvóti, ápíti, etc., are a very small minority in RV., and in AV. almost unknown; and in the sentence the fusion is prevalent in RV., and still more so in AV. In both classes of cases, the mode of unification is practically the same in internal and in external combination; and the fact in regard to the latter may with evident plausibility be stated thus: the contractions of two vocalic elements, final and initial, into one syllable, which were admissible in the oldest language, and more or less frequent according to the nature and circumstances of the combination, have later been artificially made obligatory in all situations.

In the treatment of final diphthongs before an initial vowel, the rules of external combination are different from those of internal: the former require or permit (except in the case of e or o before a) the loss of the final element of the diphthong, a or a remaining, with hiatus before the initial vowel. The persistence of this hiatus testifies to the comparatively recent loss of the intervening y or v; and, on the other hand, the occasional fusion, even in the Veda, of the two vowels across the hiatus indicates that this loss is a genuine one, and began before the date of the classical language. Without going into details, it may be said that the general authenticity of the phenomena expressed by the rule is not open to

serious question:

As regards the loss of initial a after final e or o, invariably required in the later language, it has been often pointed out that the Vedic usage is very different. In RV, the a remains except in about  $1\frac{1}{2}$  per cent. of the instances (see Prof. Avery, in these Proceedings for May, 1879); in AV,, the proportion of loss has risen to about 18 per cent.; it is, then, so plainly a growing tendency, that we do not need to wonder at its being later, in the general inclination to uniformity, raised to the rank of a necessary rule. The phonetic explanation is difficult; but it seems not unlikely, considering the way in which the accent of the lost a is represented in that of the remaining diphthong, that the latter is a prakritic contraction of  $-\alpha a$  a- and  $-\alpha v$  a- respectively.

In consonant combination, the most noteworthy general difference between internal and external is that in the latter a final surd mute must be made sonant before vowels and semivowels and nasals, while in the former surds are admitted as freely as sonants before these cla-se- of sounds. On this point we can gain no light from the Veda; it is, at any rate, written according to the rules of the classical language, and there is no test which we can apply to determine the faithfulness of the representation. It is not impossible that we have to recognize here a degree of artificiality: a peculiar assimilation establishing itself first in compounds, and thence extended to sentence-collocations. Sporadic instances of such assimilation also before suffixes occur very early, but do not become more common later.

The general assimilation of m, one of the most common of finals, to a following initial consonant is natural enough to pass without challenge, although we may be uncertain as to the time when it became obligatory.

As to final n, the most remarkable point is its treatment in certain situations as ns: that is to say, the retention in external combination of an original word-ending ns, of which the sibilant has elsewhere disappeared, and then the extension by analogy of the same process, misapprehended as a phonetic one, to cases where the s is not historically justified. This is, beyond anything else in the rules of external combination, a voucher of their genuineness. Indications to a like effect, but of less importance and more questionable character, are seen in other "euphonic insertions" after nasals.

The treatment of s, the most frequent of all final consonants, is a subject of prime consequence, and of no small intricacy and difficulty. Before a pause, final s becomes a breathing, the visarya, or h; and the Hindu grammar makes this substitute the starting-point for its other changes: but with evident injustice, since the latter go back rather to the original s. Before surds appear in general natural assimilations of the sibilant, in part with allowed substitutions of h. Even before palatal and labial surd mutes, unaltered s is in the Veda the rule in composition (only one exception in RV., and three in AV.), and quite common in sentence-collocation. The reduction to a breathing tends to extend itself from isolated use to various other favoring situations; the steps of the process and their chronology are not determinable in detail. In internal combination, the change appears only before su of the loc. pl., and there merely optionally.

After other vowels than a and a, s before sonants becomes r in external combination. In internal, this change is made only before bh of case-endings; not even before dh of a personal ending—although such an occurrence, if it be found at all, is of extremest rarity. The genuineness and relative antiquity of the conversion c r are vouched for by the Vedic examples of v r and v r, which no grammatical theory could have devised. The extension of a kind of sonant assimilation found only before a mute within the word to collision with vowels etc. outside the word stands obviously on the same plane with the similar treatment of a final surd mute.

After d, the complete loss of s before a sonant is universal. Within the word, the same loss appears to take place before dh of a personal ending: but the examples of its actual occurrence are very few. hardly half-a-dozen. The quantity of the vowel thwarts the attempt to trace a difference of usage in Vedic verse.

The ending as becomes in general o in external combination before a sonant consonant. The phonetic explanation of this change is one of the most difficult problems in Sanskrit euphony; the suggestion that ar has been an intermediate step between as and o does not seem to remove any of the difficulty, nor to be defensible by good evidence. It is perhaps worthy of note that the conversion to the lingual semivowel r is made in cases where the sibilant, if retained as sibilant,

would become the lingual sh (e. g. cakshur, havir beside cakshusha, havisha; but mano beside manasa). The same conversion is frequent in inflection before bh of a case-ending, but is never seen before dh of a personal ending (the only quotable examples, however, of the combination are edhi for as-dhi and vadhvam [vad-dhvam?] for vas-dhvam). In derivation, as retained unchanged before semivowels and nasals is common (e. g. dasya, dasra, dasvan, namasvant, dasma, vasna); there are a very few sporadic exceptions (anhoyu, duvoyu, askrdhoyu in RV.; sahovan in AV.; tejomaya and its like later).

The later rule is that as becomes o before initial a, with loss of the a. Where, in accordance with what was noted above, the a remains in earlier usage, the preceding final is always written o, both in composition and in sentence-collocation; but the requirements of Vedic metre would often be better served by understanding the combination as as a or av a: and, as between these two, the latter, involving the same conversion as before a sonant consonant, appears at present decidedly the more probably assumable. So too before other vowels, where the s or its substitute is recently lost, and the hiatus remains, the analogy of the treatment of as before sonants in general, and that of the loss of final element of a diphthong, make it altogether likely that the change has gone through the intermediate step of an o, and that the loss is of a v.

As to r, it need only be remarked here that its not infrequent retention in the Veda before a surd in composition (as svarsha, parpati, etc.) indicates that there may be an element of artificiality in the later rule whereby r shows in such posi-

tions the same form which a s would show.

# 10. On Zoroaster and Zoroastrianism, by Mr. J. N. Fradenburgh, of Franklin, Pa.; presented by the Corresponding Secretary.

Mr. Fradenburgh begins with referring to the notices of the Persian religion found in the Bible and in the classical authors. He next sketches the history of later European study of the Zend language and writings; he describes these writings; and he then proceeds to a characterization of the religion and an account of its tounder, and closes with a description of the present condition of its followers, the Parsis.

## 11. On the present Attitude of Islam, by Prof. J. W. Jenks, of Newtonville, Mass.

Prof. Jenks glanced at the changes in the relative position of Christian and Moslem powers which have taken place during the past three quarters of a century, and the increased ascendancy of the former, and related a few incidents of his own experience in connection with them. He urged the performance of certain duties toward the now thoroughly subordinated Mohammedans: to furnish them with a Christian diplomacy and code of international law, which, in the interests of peace, should be enforced on Moslem and Christian nations alike, and a representative world's congress; to impose entire religious toleration; to acknowledge a religious fellowship between Christian and Moslem; and to cease misunderstanding and contemning Moslems and their belief.

After the conclusion of this paper, the usual vote of thanks to the American Academy for the use of its room was passed, and the Society adjourned, to meet at New York in October next.